DOCUMENT RESUME

ED 227 464 CS 007 042

AUTHOR Pearson, P. David; Fielding, Linda
TITLE Instructional Implications of Listening Comprehension Research. Reading Education Report No. 39.
INSTITUTION Bolt, Beranek and Newman, Inc., Cambridge, Mass.; Illinois Univ., Urbana. Center for the Study of Reading.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE Mar 83
CONTRACT 400-81-0030
NOTE 28p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Auditory Perception; Cognitive Processes; Elementary Secondary Education; Integrated Activities; Learning Modalities; Learning Theories; *Listening Comprehension; *Listening Skills; Literature Reviews; *Reading Comprehension; *Reading Research; Schemata (Cognition); Teaching Methods

ABSTRACT

While listening comprehension is perhaps the most ignored area of the language arts, a review of the literature suggests that it is deserving of more classroom instructional time. Involving the simultaneous orchestration of skills in phonology, syntax, semantics, and knowledge of text structure, listening comprehension seems to be controlled by the same set of cognitive processes as reading comprehension. However, because crossmodal transfer between reading and listening is at best imperfect, teachers cannot expect automatic improvement in listening comprehension through attention to reading comprehension. When instruction occurs in an auditory mode, though, training in many of the same skills generally used in reading comprehension does seem to work. Additionally, since many of the recent investigations in such areas as schema theory and actively negotiating meaning for a text have actually assessed listening comprehension, their instructional implications may be even more applicable to listening than they are to reading. Activities that use students' listening capabilities seem to have potential for improving reading comprehension. Repeated readings and read-along techniques, for example, rely on listening to help students learn to assign appropriate prosodic patterns to text. (Author/FL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED227464

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

CENTER FOR THE STUDY OF READING

Reading Education Report No. 39

INSTRUCTIONAL IMPLICATIONS OF LISTENING COMPREHENSION RESEARCH

P. David Pearson
and Linda Fielding

University of Illinois at Urbana-Champaign

March 1983

University of Illinois
at Urbana-Champaign
51 Gerty Drive
Champaign, Illinois 61820

Bolt Beranek and Newman, Inc.
50 Moulton Street
Cambridge, Massachusetts 02238

The research reported herein was supported in part by the National Institute of Education under Contract No. NIE 400-81-0030. Appeared in Language Arts 1982, 59(6), 617-629.

CS007042

Abstract

Listening comprehension is perhaps the most ignored area of the language arts; but we suggest, after a review of the literature, that it is deserving of more classroom instructional time. Involving the simultaneous orchestration of skills in phonology, syntax, semantics and knowledge of text structure, listening comprehension seems to be controlled by the same set of cognitive processes as reading comprehension. However, because cross-modal transfer between reading and listening is at best imperfect, teachers cannot expect automatic improvement in listening comprehension through attention to reading comprehension. When instruction occurs in an auditory mode, though, training on many of the same skills generally focused on in reading comprehension does seem to work. Additionally, since many of the recent investigations in such areas as schema theory and actively negotiating meaning for a text have actually assessed listening comprehension, their instructional implications may be even more applicable to listening than they are to reading. Activities which capitalize on students' listening capabilities seem to have potential in improving reading comprehension. Repeated readings and read-along techniques, for example, rely on listening to help students learn to assign appropriate prosodic patterns to text. We conclude with recommendations for teachers gleaned from our review of the research.

Instructional Implications of Listening Comprehension Research

Like the television advertisement, we find it ironic that language researchers spend so little time studying a phenomenon that people engage in so many of their waking hours. In surveying a broad range of literature about listening comprehension we concluded the following:

1. The zest for research about how to help students become more effective listeners so characteristic of the fifties and sixties seems to have been quelled in the seventies and early eighties, perhaps because the twin poles of literacy, reading and writing, have dominated our energies.

2. In many instances, when listening comprehension is discussed, it is discussed in relationship to reading comprehension, usually to answer the question, How and when do people become as effective at comprehending the written word as they are at comprehending the spoken word?

3. While listening comprehension is frequently used as an <u>outcome</u> measure in psycholinguistic and cognitively-oriented research studies, listening as a phenomenon is incidental to those efforts; instead it is often only a convenient vehicle for evaluating the effects of manipulations in factors like text structure (e.g., story grammar research a la Stein & Glenn, 1977; or text analysis a la Meyer, 1975), imagery training (e.g., Pressley, 1977), sentence combining (e.g., Straw & Schreiner, 1982), or mnemonic devices (e.g., Levin, Pressley, McCormick, Miller & Shriberg, 1979). This fact about much recent research puts us in an interesting situation: We know, by implication, a lot about what affects

listening comprehension, but we do not know much about listening comprehension as a process.

Given this background, we set out to answer four questions about listening comprehension. These questions comprise both the intent and the extent of our review:

1. What is involved in listening comprehension?
2. Can listening comprehension be taught?
3. How does listening comprehension relate to reading comprehension?
4. What affects listening comprehension?

After trying to answer each of these four questions, we will attempt to answer the all-important "so what" question--What does all this mean for the language arts educator who is trying to design curriculum and deliver instruction?

What is Involved in Listening Comprehension?

It is true, by definition, that you cannot understand auditory messages in a language unless you have some command over key components of that language, namely phonology (sound structure), syntax (sentence structure), semantics (word meaninings and the relationships among meanings), and text structure (conventions about how events and assertions in narratives and expositions are typically structured).

At the phonological level, a listener has to be able to distinguish the significant sound "bundles," or phonemes, of the language. For instance, a speaker of English knows that /bat/ differs from /vat/ but a speaker of Spanish along the Rio Grande does not "know" that same distinction. But there are other phonemic requirements essential to competence. The listener has to be sensitive to intonation patterns (rising and falling

pitch) that offer cues as to whether the statement is a declaration, question or command, as distinct in examples 1) - 3).

1) You are going to buy that new hat.

2) You are going to buy that new hat?

3) You are going to buy that new hat!

The listener also has to be sensitive to variations in stress (loudness) patterns across words because stress patterns tell us what aspect of a sentence to focus upon, as illustrated in 4) and 5).

4) YOU are going to buy that hat?

5) You are going to BUY that new hat?

Notice that in 4) the focus is on who is doing the buying (you not someone else), whereas in 5) it is on the action (BUYing as opposed to stealing, we suppose). Finally listeners must be sensitive to the subtle cues that allow them to determine where one word stops and another begins--juncture, we call it--so that they can disambiguate potentially ambiguous strings like 6) and 7):

6) ice cream versus I scream

7) my skis versus mice keys

At the syntactic level, listeners must be able to recognize paraphrase, as in 8) and 9); disambiguate--recognize the two interpretations of--sentences like 10); and recognize cues regarding form class (inflections like -ed or -ing for verbs, -er and -est for adjectives, etc., as well as sentence position cues like subject, verb, and object slots).

8) John thanked Susan.

9) Susan was thanked by John.

10) Mrs. Wilson was cooking.

At the semantic level, the listener needs to know what words mean (a dog is an animal that barks, has a sloppy tongue, and fetches newspapers) and how words relate to one another (dogs are members of the class called canines, collies are examples of dogs, dogs have attributes of barking, sloppy tongues and loyalty, cats and dogs are both pets).

At the text structure level, listeners have to know how things like stories are typically organized in their culture (in Western society characters have problems, goals and conflicts that elicit actions designed to resolve problems, overcome the conflicts and achieve the goals).

When listeners can orchestrate all these kinds of knowledge and apply them to achieve a satisfactory interpretation of a text (an interpretation that makes listeners feel like they have experienced "the click of comprehension," i.e., it makes sense to them) we can say that they have experienced listening comprehension.

This primarily linguistic analysis of what must be involved in listening comprehension is not without psycholinguistic support. Various researchers have found that the lack of facility in any one of these components leads to either reduced comprehension or increased processing time. This is true for phonological knowledge (e.g., Melmed, 1970), syntactic knowledge (e.g., Gough, 1965; Slobin, 1966), semantic knowledge (Collins & Quillian, 1969; Bransford & Johnson, 1972), and text structure knowledge (e.g., Stein & Glenn, 1977; Rumelhart, 1975). The key to listening comprehension is, of course, the ability to orchestrate all these components simultaneously.

Can Listening Comprehension be Taught?

By the 1960s researchers had amassed considerable proof that elementary children can improve in listening comprehension through training; research in the seventies added to the evidence. The more difficult questions of what methods work best and what enhances listening comprehension are still being pursued, but there do seem to be some promising directions in the research.

Researchers such as Pratt (1953), Canfield (1961), Trivette (1961), Lundsteen (1963), DeSousa and Cowles (1967), Thorn (1968), the Thompson (Colorado) School District (1970), Kranyik (1972), Morrow (1972), Lemons (1974) and others noted by Early (1960) and Duker (1969) in their respective reviews on listening found that elementary children who received direct training in listening could indeed improve in listening comprehension. The training methods and tests used in these studies generally focused on skills commonly taught in reading comprehension, such as getting the main idea, sequencing, summarizing and remembering facts. The key, though, is that instruction occurred in a listening, not in a reading, mode, and that the children were aware that they were receiving listening instruction.

Several experimenters of the seventies tried more specific approaches, with mixed results. On the positive side, Klein and Schwartz (1977) found that second and third grade students trained in either auditory sequential memory or sustained attention to a task made significant gains in auditory sequential memory (as measured by following directions to complete a task) over a cognitive enrichment group and a no-treatment control group. Wiedner (1976) noted gains in fourth grade students' listening comprehension scores

when the teacher read literature to them for ten minutes every day. On a more negative note, Luderer (1976) found no significant differences between fifth and sixth grade students who received prefatory statements (sort of like advance organizers) before listening to a story and those who did not. Gambrell, Koskinen and Cole (1980) found no effects for induced mental imagery on recall after listening to (or reading) a passage. Fleming (1974) found that auditory highlighting of the main points of a passage (via voice changes or pauses before main points) had no effect on the listening comprehension of fifth and sixth grade underachievers in reading who learned best through an auditory mode.

A promising approach to assisting listening comprehension seems to lie in combining listening with oral responses from the listeners. Keislar and Stern (1969) found, in a series of studies, that kindergarten children, particularly lower class children, profited from speaking relevant words out loud in programmed instruction designed to teach listening comprehension of information dealing with conceptual rules and subject content (e.g., class inclusion, nature study), but that when more complex thought processes were involved and the spoken responses constituted only part of what was to be assimilated, the training procedure did not help. Glynn and Hartzell (1978) found that second grade students who listened to a speech and then reported on it orally had better recall than a group who listened to the speech and then listened to one of the oral reports of the speech. The researchers suggested that the organizational processes necessary to tell about what was listened to aided the recall. Allison (1971) found that fifth grade students who had listening lessons and then

discussed the lessons in small groups with their peers achieved higher listening scores than other groups (those who received no listening instruction, or those who received listening instruction with no reinforcement, with multiple choice tests, or with large group teacher-led discussions). Apparently active involvement following listening seems to help more than do more passive activities.

A series of studies by Patterson and others (Cosgrove & Patterson, 1977ab; Massad & Patterson, 1978; Patterson, Massad, & Cosgrove, 1978) focused on referential communication skills in kindergarten and first grade children. They found that listeners performed better in choosing an object being described by a speaker they could not see (a screen separated listener and speaker) when they were given a plan for effective listening which involved asking relevant questions of the speakers as they listened. They speculated that an important listening skill is knowing when and how to request additional information.

Two other studies that deal with improving listening through other areas of the language arts deserve mention. A recent study by Straw and Schreiner (1982) showed that fourth grade students trained in a sentence combining (synthetic) approach to writing performed significantly better on a listening comprehension test (and on one of two reading comprehension tests) than those trained in a sentence reduction or a textbook approach (both analytic) to writing. Kennedy and Weener (1973) found that third grade students below average in reading who received either visual or auditory cloze training improved significantly in listening comprehension.

In summary, the following conclusions about teaching listening comprehension seem warranted. First, listening training in the same skills typically taught in reading comprehension curricula tends to improve listening comprehension. Second, listening comprehension is enhanced by various kinds of active verbal responses on the part of students during and after listening. Third, listening to literature tends to improve listening comprehension. Fourth, certain types of instruction primarily directed toward other areas of the language arts (e.g., writing or reading comprehension) may improve listening comprehension as well. Finally, the direct teaching of listening strategies appears to help children to become more conscious of their listening habits than do more incidental approaches.

Listening Comprehension and Reading Comprehension

We have just presented evidence that listening comprehension (at least the kind required in schools) can be improved through fairly direct instructional strategies that focus on listening strategies that are comparable to those typical of reading comprehension instruction. Yet listening comprehension, thought of as the mundane activity that allows us to communicate with all sorts of people as we march through our daily routines of life, is something that develops quite naturally for most children without any direct attempt on anyone's part to "teach" children how to comprehend.

By contrast, we go to great ends to "teach" children how to comprehend the written word, or, at least, as Durkin (1978-79, 1981) points out we provide children with innumerable opportunities to practice and learn how to perform various comprehension skills. Part of our zeal for providing

so many opportunities for children to practice reading comprehension must stem from our concern that so many children do so poorly on reading comprehension tests (as evidenced by NAEP reports, e.g., 1981). And remember many of these "poor" reading comprehenders must be children who manage to get along quite well in their daily lives, implying, of course, that there must be at least some mismatch between their ability to comprehend the written word versus the spoken word. So it seems useful, in this review, to examine the relative courses of development of listening and reading comprehension. There are two lines of research that are relevant to this comparison. The first, intensively reviewed by Sticht, Beck, Hauke, Kleiman, and James (1974), focuses upon investigations of the relative advantage accruing to either mode at different age levels. The second involves a linguistic comparison of the tasks that readers versus listeners must engage in in order to make sense of their respective graphic or auditory data displays.

Sticht, et al. reviewed some thirty-one studies that compared reading versus listening comprehension at various grade levels. What they found was that in the elementary grades (one-six), almost all of the comparisons favor the listening comprehension mode. As one moves from grade seven through grade twelve, the proportion of studies showing an advantage to reading comprehension increases, as does the proportion of studies showing no difference between the two modes. These findings are displayed dramatically in Figure 1 (derived from Sticht, et al. 1974, p. 82). Sticht, et al., interpret these data as supporting a definition of "mature" reading as a state in which individuals can read as well as they can

---

Insert Figure 1 about here.

---

listen. They suggest that the extra advantage demonstrated beyond grade eight for reading over listening stems from the fact that the data display for reading is stable and can be reexamined whereas the data display for listening is transitory and not (normally) subject to re-examination. One is tempted, when examining these data, to infer that when decoding skills become automatic, a person can read as well as he or she can listen. However, the data do not allow such an inference since individual measures of decoding competence were not correlated with relative advantages to reading or listening in the studies reviewed by Sticht and his colleagues. Nonetheless, the orderliness of the data reviewed in these analyses does suggest that, in general, reading skills develop at a more accelerated rate than do listening skills up until the point where the two modes of processing become essentially equivalent.

Sticht, et al. also reviewed a smaller number of studies that evaluated the transfer of instructional training programs in one modality (mostly listening) to the other modality. Their conclusions are both encouraging and provocative because they suggest that <u>if</u> students already had relatively equivalent reading and listening comprehension profiles and <u>if</u> the training proved to be effective in the mode in which it was delivered, then it was very likely to transfer to the other mode. They also noted that the intermodal transfer was relatively task-specific; that is, if auditory mode training aided drawing inferences in the auditory mode, then it transferred to drawing inferences in the reading mode but did not transfer, say, to determining sequence in either mode. Sticht, et al. interpret these data as support for a model of languaging which suggests

that once lower level reading skills are mastered, both reading and listening are controlled by the same set of cognitive processes (hence the intermodal transfer).

A somewhat different but related perspective comparing listening and reading comprehension is provided by Schreiber (1980), who asks the question, What is it that the reader has to learn that happens automatically for the listener? One might expect Schreiber to answer, "Well, of course, how to recode letters (graphemes) as sounds (phonemes)." While Schreiber does not deny that possibility, he chooses to emphasize other aspects of the auditory message that are not well transmitted in the visual code, namely those aspects of the auditory message that we earlier referred to as stress and pitch, or what many linguistic scholars refer to as "prosodic" features of the auditory message. As we suggested, both of these prosodic features are crucial to comprehension. Pitch, expressed as intonation patterns, tells us what the speaker wants us to do with his or her message: carry out a command, answer a question, or recognize a fact about the speaker's world. Stress, relative loudness of some words over others, tells us which words (and hence, concepts) the speaker wants us to regard as most important and deserving of our focus.

Neither of these features is well communicated in written language. Punctuation is just not as salient to us as are intonation patterns (besides it comes after the sentence), and italics, underlining and quotes are only rarely used to indicate stress. Basically, a reader has to use prior knowledge of the topic of the written text and/or knowledge of sentence structure to infer the appropriate prosodic patterns for sentences in a written text. And when a reader is able to make these

appropriate inferences, we say that he or she reads with fluency or has good expression when reading orally.

After discussing these linguistic requirements that are provided for listeners but must be inferred by readers, Schreiber goes on to explain why such seemingly simple-minded instructional strategies as reading along orally with a teacher's model (variously called the impress-method, echo-reading or the oath-of-office approach) or the method of repeated readings (e.g., Samuels, 1979; C. Chomsky, 1978) seem to result in improved comprehension. They work, according to Schreiber, because they help children determine either what the appropriate prosodic pattern is for a given text and/or because, with lots of practice, they may help children transfer the assignment of appropriate prosody to novel passages. It is precisely because they can assign prosody that they "understand" the passage.

We find Schreiber's analysis fascinating because it suggests that there is something both more subtle and more fundamental than recoding symbols into sounds that readers must learn in order to meet Sticht, et al.'s definition of a mature reader (i.e., one who can read as well as he or she can listen). Schreiber's analysis suggests that what readers must learn to do is to encode "rhythms and melodies" into texts where there is precious little direct evidence concerning what those rhythms and melodies ought to be. Further he implies, when he cites the serendipitous benefits of the over-learning inherent in repeated readings or read-along techniques, that the most efficient route to helping students learn how to do this encoding is to help them learn to rely on their well

developed listening capabilities to pull their less well developed reading capabilities along. This is a case where the reciprocity between language functions is clearly implicated.

The upshot of both these lines of analysis (Sticht, et al. & Schreiber) is that language in all its facets is an integrated phenomenon. Effects in one of its sub-systems will show up in other sub-systems. There appears to be a language comprehension system, of which reading and listening are but complementary facets.

What Affects Listening Comprehension

The decade of the seventies witnessed an explosion of research about the cognitive processes involved in language processes generally and reading comprehension particularly. Beginning with the groundwork of psycholinguists (e.g., Miller, 1962; Gough, 1965; Slobin, 1966), a new branch of psychology, called cognitive psychology, emerged and staked its claim to a study of how the mind encodes, stores, and retrieves (primarily) linguistic information. The pioneering work of people like Sachs (1967) and Bransford and Franks (1971) called into question the behavioristic traditions of an earlier era by rejecting passive views of the human information processor as an empty receptacle waiting to be filled by experience in favor of a more active processor who guides the search for information from the environment to verify, refine or reconstruct ongoing and ever-changing views about how the linguistic world ought to be organized. In the field of language arts, this more active view is reflected in the work of people like Rosenblatt (1939) in literature and Smith (1971, 1978), Pearson and Johnson (1978) and the Goodmans

(K. Goodman, 1965; Goodman & Goodman, 1979) in reading; more recently, such views have found their way into written composition (e.g., Graves, 1978; Flower & Hayes, 1981). Ironically, little has been written about listening from this more active cognitive perspective, even though much of the cognitive research supporting this view has been done using listening as the mode through which information has been transmitted to subjects.

For example, much of the work on the development of schemata for stories in children (e.g., the work of Stein & Glenn, 1977; Mandler, 1978, among others) has been done by having children listen to rather than read stories. Some of the work of Meyer on the influence of text structures in expository prose (e.g., Meyer, 1975) has also used listening rather than reading as a mode of input. The intriguing work of Levin and his colleagues (e.g., Levin & Pressley, 1981) on the role of pictures and mental imagery training is similarly cast in a predominantly listening rather than reading mode. In fact one of the reasons that cognitive researchers have children listen to rather than read the stories and texts used in their studies is that they do not want differences among students in decoding ability to interfere with their comprehension of these stories and texts.

What all this means is that while reading comprehension has been the primary beneficiary of these new cognitive views, we probably have a more substantial basis for applying them to listening comprehension. It is likely that the reason that people haven't talked much about a revolution in the listening comprehension curriculum (while such rumors of revolution

are alive and well in reading and writing) is simply that there really are not very many listening comprehension curricula around.

Nonetheless all the recent talk about active readers who construct a model of meaning for a text (e.g., Collins, Brown, & Larkin, 1980), all the work on schema theory (e.g., Anderson, Reynolds, Schallert & Goetz, 1978) and its application to reading practice (e.g., Pearson & Spiro, 1980) should be regarded, if anything, as even more applicable to listening than it is to reading comprehension.

So What?

We begin our implications for practice section with a disclaimer. As researchers, we are tempted to overinterpret and overimply; when we find something that works, we often overstate our case for what it means for practice in our quest not to be perceived as irrelevant. Our disclaimer is this: Just because we can demonstrate that a certain variable (say, a schema for stories) influences comprehension does not mean that teachers should immediately go out and start teaching it (for example, teach kids a schema for stories). It is one thing to be able to demonstrate that students with a better story schema understand stories better than those with a weaker story schema; it is quite another to demonstrate that providing those who are weak with a stronger story schema now comprehend better. And that critical test of determining whether or not instruction helps ought to be a prerequisite to any firm recommendations we make to practitioners. Practitioners, by the way, should require such evidence before they change what they presently do.

Hence we divide our recommendations into two categories; those we feel pretty sure about (because the evidence is in) and those we feel need further testing but are nonetheless worthy of your careful consideration.

The Pretty Sure Recommendations:

1. At almost any age level, students will benefit from direct attempts to improve their ability to perform specific comprehension tasks (e.g., main idea, inference, sequence) in the listening mode. Don't, however, expect much in the way of transfer from one skill to another.

2. After students have become mature readers, then what benefits reading will likely benefit listening comprehension and vice-versa. Prior to that stage, cross-modal transfer is possible but less likely. There is not much reason to believe that there is much transfer between skills even at this more mature level.

The You Ought to Consider Carefully Recommendations:

3. We do not understand why there is so little attention paid to listening comprehension as a matter for a school curriculum when students spend so much time listening. We would like to see more emphasis given to listening comprehension as an entity in its own right. We do not think that what is done ought to be very different from good reading comprehension instruction (see Pearson & Johnson, 1978; Goodman & Burke, 1979; Pearson, 1982 for examples); but we do think it ought to be done more often as a listening activity. Furthermore, if teachers did this, they would be able to work in more advanced content and skills at an earlier age than they can with reading.

4. Helping students learn to read fluently (or with expression) has gotten some pretty bad raps in recent years because people do not like oral reading. Yet, Schreiber's argument is intriguing, and we'd like to see children get the opportunity to practice reading orally more often so that they can learn how to assign those all important prosodic features to text. In order to do this properly, teachers are going to have to deemphasize accuracy in favor of features like rhythm and melody. So it may not be the kind of oral reading practice we are used to.

5. If we take constructive models of language comprehension seriously, then we have to provide children with many opportunities to "negotiate" a model of meaning for a text with the author of that text. Such practice can proceed just as well in a listening as it can in a reading mode. We can see situations in which teachers work through a story or a text with a group of children. Along the way, the students could summarize what it is about so far, discuss things that are not clear to them (i.e., monitor for making sense), predict what might come next and then continue repeating that cycle. Note that such activities involve verbal response and interaction, which seem to enhance listening comprehension.

There are probably other speculations we could make. But we stop here for fear that we have run out of bridges to help us cross the chasm that sometimes separates research and practice. We end with one conviction: For too long we have neglected listening as a part of our language arts curriculum. Listening is too important a language function to leave to the whims of circumstance; we ought to grant it its rightful place as we plan, implement, and teach the total language arts curriculum.

References

Allison, T. L. A comparison of reinforcement activities for listening comprehension skills. Unpublished doctoral dissertation, Syracuse University, 1971. (ERIC Document Reproduction Service No. ED 074 470)

Anderson, R. C., Reynolds, R. E., Schallert, D. L., & Goetz, E. T. Frameworks for comprehending discourse. American Educational Research Journal, 1977, 14, 367-382.

Bransford, J., & Franks, J. The abstraction of linguistic ideas. Cognitive Psychology, 1971, 2, 331-350.

Bransford, J. D., & Johnson, M. K. Contextual prerequisites for understanding: Some investigations of comprehension and recall. Journal of Verbal Learning and Verbal Behavior, 1972, 11, 717-726.

Canfield, G. R. How useful are lessons on listening? Elementary School Journal, 1962, 62, 146-151.

Chomsky, C. When you still can't read in third grade: After decoding, what? In S. J. Samuels (Ed.), What research has to say about reading instruction. Newark, Del.: International Reading Association, 1978.

Collins, A. M., & Quillian, M. R. Retrieval time from semantic memory. Journal of Verbal Learning and Verbal Behavior, 1969, 8, 240-247.

Cosgrove, J. M., & Patterson, C. J. Plans and the development of referential communication skills in young listeners. Paper presented at the Annual Meeting of the Society for Research in Child Development, New Orleans, Louisiana, March 1977a. (ERIC Document Reproduction Service No. ED 160 196)

Cosgrove, J. M., & Patterson, C. J. Training referential communication skills: The relative effects of plans and modeling. Paper presented at the annual meeting of the Eastern Psychological Association, Boston, Massachusetts, April 1977b. (ERIC Document Reproduction Service No. ED 146 529)

DeSousa, A. M., & Cowles, M. An experimental study to determine the efficacy of specific training in listening. Paper presented at the American Educational Research Convention, February 1967. (ERIC Document Reproduction Service No. ED 016 656)

Duker, S. Listening. In R. L. Ebel (Ed.), Encyclopedia of educational research (4th ed.). London: Collier-MacMillan, 1969.

Durkin, D. What classroom observations reveal about reading comprehension instruction. Reading Research Quarterly, 1978-79, 14, 481-533.

Durkin, D. Reading comprehension instruction in five basal reading series. Reading Research Quarterly, 1981, 16, 515-544.

Early, M. J. Communication arts. In C. W. Harris (Ed.), Encyclopedia of educational research (3rd ed.). New York: MacMillan, 1960.

Fleming, J. W. Auditory highlighting as a strategy for improving listening comprehension. Auditory Learning Monograph Series No. 2, Consortium on Auditory Learning Materials for the Handicapped, East Lansing, Michigan, July 1974. (ERIC Document Reproduction Service No. ED 102 750)

Flower, L., & Hayes, J. R. The pregnant pause: An inquiry into the nature of planning. Research in the Teaching of English, 1981, 15, 229-243.

Gambrell, L., Koskinen, P., & Cole, J. N. The effects of induced mental imagery upon comprehension: A comparison of written versus oral presentation. Paper presented at the annual meeting of the National Reading Conference, San Diego, California, December 1980. (ERIC Document Reproduction Service No. ED 198 503)

Glynn, S. M., & Hartzell, L. D. Children's retention of topical and factual information following oral report activities. Paper presented at the annual convention of the Southeastern Psychological Association, Atlanta, Georgia, March 1978. (ERIC Document Reproduction Service No. ED 158 207)

Goodman, K. A linguistic study of cues and miscues in reading. Elementary English, 1965, 42, 639-643.

Goodman, K. S., & Goodman, Y. M. Learning to read is natural. In L. B. Resnick & P. A. Weaver (Eds.), Theory and practice of early reading (Vol. 1). Hillsdale, N.J.: Erlbaum, 1979.

Goodman, Y. M., & Burke, C. L. Reading strategies: Focus on comprehension. New York: Holt, Rinehart, & Winston, 1980.

Gough, P. B. Grammatical transformations and speed of understanding. Journal of Verbal Learning and Verbal Behavior, 1965, 4, 107-111.

Graves, D. H. We won't let them write. Language Arts, 1978, 55, 635-640.

Keislar, E. R., & Stern, C. The value of spoken response in teaching listening skills to young children through programmed instruction. Final report. Los Angeles: University of California, January 1969. (ERIC Document Reproduction Service No. ED 027 973)

Kennedy, D. K., & Weener, P. Visual and auditory training with the cloze procedure to improve reading and listening comprehension. Reading Research Quarterly, 1973, 8, 524-541.

Klein, P. S., & Schwartz, A. A. Effects of training auditory sequential memory and attention on reading. Unpublished study prepared at Adelphi University, 1977. (ERIC Document Reproduction Service No. ED 159 654)

Kranyik, M. A. The construction and evaluation of two methods of listening skills instruction and their effects on listening comprehension of children in grade one. Unpublished doctoral dissertation, Boston University, 1972. (ERIC Document Reproduction Service No. ED 074 486)

Lemons, R. L. The effects of passive listening upon reading and listening skills of a group of black fourth graders. Unpublished doctoral dissertation, Syracuse University, 1974. (ERIC Document Reproduction Service No. ED 110 948)

Levin, J. R., & Pressley, M. Improving children's prose comprehension: Selected strategies that seem to succeed. In C. Santa & B. Hayes (Eds.), Children's prose comprehension: Research and practice. Newark, Del.: International Reading Association, 1981.

Levin, J. R., Pressley, M., McCormick, C. B., Miller, G. E., & Shriberg, L. K. Assessing the classroom potential of the keyword method. Journal of Educational Psychology, 1979, 71, 583-594.

Luderer, E. The effects of prefatory statements on the listening comprehension of fourth and fifth graders. Unpublished master's thesis, Rutgers, the State University of New Jersey, 1976. (ERIC Document Reproduction Service No. ED 127 561)

Lundsteen, S. Teaching abilities in critical listening in the fifth and sixth grades. Unpublished doctoral dissertation, University of California, Berkeley, 1963.

Mandler, J. M. A code in the node: The use of a story schema in retrieval. Discourse Processes, 1978, 1, 14-35.

Massad, C. M., & Patterson, C. J. Communication among children: The role of the listener. Paper presented at the Biennial Southeastern Conference on Human Development, Atlanta, Georgia, April 1978. (ERIC Document Reproduction Service No. ED 160 196)

Melmed, P. J. Black English phonology: The question of reading interference. Unpublished doctoral dissertation, University of California at Berkeley, 1970.

Meyer, B. J. F. The organization of prose and its effects on memory. Amsterdam: North-Holland Publishing, 1975.

Miller, G. A. Some psychological studies of grammar. American Psychologist, 1962, 17, 748-762.

Morrow, E. C. The effect of taped listening lessons on the achievement of first grade readers. Unpublished doctoral dissertation, Pennsylvania State University, 1972. (ERIC Document Reproduction Service No. ED 083 559)

National Assessment of Educational Progress. Three National Assessments of Reading: Changes in Performance, 1979-80. (Report No. 11-R-01) Education Commission of the States, Denver, 1981.

Patterson, C. J., Massad, C. M., & Cosgrove, J. M. Children's referential communication: Components of plans for effective listening. Paper presented at the meeting of the Southwestern Society for Research in Human Development, Dallas, Texas, March 1978. (ERIC Document Reproduction Service No. ED 158 155)

Pearson, P. D. A context for instructional research on reading comprehension (Tech. Rep. No. 230). Urbana: University of Illinois, Center for the Study of Reading, February 1982.

Pearson, P. D., & Spiro, R. J. Toward a theory of reading comprehension research. Topics in Language Disorders, 1980, 1, 71-88.

Pearson, P. D., & Johnson, D. D. Teaching reading comprehension. New York: Holt, Rinehart & Winston, 1978.

Pratt, L. E. Experimental evaluation of a program for improvement of listening in the elementary school. Unpublished doctoral dissertation, State University of Iowa, 1953.

Pressley, M. Imagery and children's learning: Putting the picture in developmental perspective. Review of Educational Research, 1977, 47, 585-622.

Rosenblatt, L. M. Literature as exploration (3rd ed.). New York: Noble & Noble, 1976. (Originally published 1939)

Rumelhart, D. E. Notes on a schema for stories. In D. G. Bobrow & A. M. Collins (Eds.), Representation and understanding: Studies in cognitive science. New York: Academic Press, 1975.

Sachs, J. S. Recognition memory for syntactic and semantic aspects of connected discourse. Perception and Psychophysics, 1967, 2, 437-442.

Samuels, S. J. The method of repeated readings. The Reading Teacher, 1979, 32, 403-408.

Schreiber, P. A. On the acquisition of reading fluency. Journal of Reading Behavior, 1980, 12, 177-186.

Slobin, D. T. Grammatical transformations and sentence comprehension in childhood and adulthood. Journal of Verbal Learning and Verbal Behavior, 1966, 5, 219-227.

Smith, F. Understanding reading. New York: Holt, Rinehart & Winston, 1971.

Smith, F. Understanding reading: A psycholinguistic analysis of reading and learning to read (2nd ed.). New York: Holt, Rinehart, & Winston, 1978.

Stein, N. L., & Glenn, G. A developmental study of children's construction of stories. Paper presented at the SRCD meetings, New Orleans, March 17-20, 1977.

Stein, N., & Glenn, C. G. An analysis of story comprehension in elementary school children. In R. Freidle (Ed.), New directions in discourse processing. Norwood, N.J.: Ablex, 1979.

Sticht, T. G., Beck, L. J., Hanke, R. N., Kleiman, G. M., & James, J. H. Auding and reading: A developmental model. Alexandria, Va.: Human Resources Research Organization, 1974.

Straw, S. B., & Schreiner, R. The effect of sentence manipulation on subsequent measures of reading and listening comprehension. Reading Research Quarterly, 1982, 17, 339-352.

Thompson School District. A program of primary auding skills: Final evaluation report. Loveland, Colorado, 1970. (ERIC Document Reproduction Service No. ED 061 009)

Thorn, E. A. The effect of direct instruction in listening on listening and reading comprehension of first grade children. Dissertation Abstracts, 1968.

Trivette, S. The effect of training in listening for specific purposes. Journal of Educational Research, 1961, 54, 276-277.

Weidner, M. J. A study of the effects of teacher oral reading of children's literature on the listening and reading of grade four students. Unpublished doctoral dissertation, Boston University, 1976. (ERIC Document Reproduction Service No. ED 140 246)